Skin Tumors

The skin is the largest “organ” in the body and skin tumors are the most common of all tumors in human. They originate from either epidermis, connective tissue, glands, muscle , or nerves.
Their incidence is high in sunny climate. In England, they represent 5% of all cancers while in Australia, they represent 50% of all cancers. They mainly occur in fair skinned individuals.

Types of skin tumors

1- Benign: seldom interferes with function and they are removed for cosmetic reason.
2- Premalignant
3- Malignant

Premalignant lesions

1-actinic keratosis: (Senile Keratosis)

These occur on sun-exposed skin. An aggressive form of AK called actinic cheilitis occurs on the lips. Fair-skinned individuals with blue or green eyes are at highest risk. AKs represent the most common premalignant skin lesion. Lesions are generally between 1mm and 2 cm in diamter and appear as scaly patches.

An estimated 5% to 20% of patients with these lesions will develop SCC ,therefore they require treatment.

Treatment involves monitoring closely and removal. Patients with multiple lesions and lesions with significant erythema should be biopsied. Multiple lesions are usually treated with S-fluorouracil or the immune stimulator imiquimod (Aldara) . Other treatment modalities are cryosurgery, typically with liquid nitrogen,

electrodesiccation and curettage, topical treatments, and laser and surgical excision.

2-Leukoplakia.

Leukoplakia is white intraoral plaque and is the most common precancerous lesion of the oral cavity and may appear in the lip. These lesions do not frequently become squamous cell cancer but must be followed and biopsied if they persist or undergo a change in appearance.

3-Bowen's disease

This is an SCC in situ, of which 3-11% progress to SCC. Chronic solar damage and HPV16 has documented as a cause of Bowen' disease. It often present as a slowly enlarging erthymatous, scaly patch or plaque. It can occur on mucous membrane.
Topical treatment with 5-flurouracil is an effective treatment or surgical excision with 4-mm margin for larger or recurrent lesions. cryotherapy, curettage, cauterization and topical photosensitizer can also be considered.

4-Xerodermia Pigmentosa(XP)

An autosomal recessive genetic disorder of DNA repair of the skin. Damage is caused by ultraviolet(UV) light with equal expression in men and women. It is occur 1 out of 250000 birth.

Following sun exposure brown patches develop ،which is a pre-malignant keratoses .Later, they change to multiple epitheliomatus skin malignancies at a young age(preschool age).

It may affect the eyes causing corneal opacification.

There is also 10-20% increase in the risk of various internal Malignancies.

Complete sun avoidance and close monitoring of the skin with early treatment of new lesions are the principles of therapy.

Malignant lesions

1-Basal cell carcinoma

The most common cutaneous malignancy in humans worldwide and accounts for nearly 80% of all skin cancers. Usually a slow-growing, locally invasive malignant tumor of the pluripotent epithelial cells arising from the basal epidermis and hair follicles, hence affecting the pilosebaceous skin. It occurs in the middle-aged or elderly with 90% of lesions found on the face.

The strongest predisposing factor is UVR, although 33% arise in parts of the body are not typically sun exposed. Other predisposing factors include exposure to arsenical compounds, coal tar, IR and genetic skin syndromes. White-skin people are almost affected and more common in men. While most arise

sporadically, BCC is also associated with several clinical syndrome including Bazex syndrome, Gorlin syndrome (basal cell nevus syndrome), and xeroderma pigmentosum.
BCCs rarely metastasize but neglected tumors can lead to significant local destruction.

Clinical presentation of BCC

1-Nodular BCC:

The most common type of BCC. Presents as a round, pearly, flesh-colored papule with telangiectases.

As it enlarges, it ulcerates centrally, leaving a raised, pearly border with telangiectases, which aids in diagnosis and then it is called Rodent Ulcer.

2-Cystic BCC

Cystic BCC is a variation of the nodular type characterized by a cystic mucin-filled central core that retains the clinical appearance of the nodular tumors

3-Pigmented BCC

Pigmented BCC is an alternative type of nodular BCC that has brown-black colour in some or all areas.
It difficult to differentiate from melanoma.

4-Sclerosing BCC(Morpheaform).

It is an uncommon type in which the tumor appears as a white or yellow , waxy, sclerotic plaque that rarely ulcerates.

Because the tumor infiltrates in thin strands between collagen fibers, treatment is difficult, and the clinical margins are difficult to distinguish, so wide safe margin should be taken during excision.

5-Superficial spreading BCC

Superficial BCC is the second most common tumor type and clinically appears as an erythematous, well-circumscribed patch or plaque, often with a whitish scale.

Diagnosis:

1-Clinical

2- a histologic diagnosis may be achieved through a biopsy or after definitive surgical excision. Smaller lesions may be excised completely with no biopsy necessary, but larger ones often require tissue biopsy prior to final therapy. Different methods for obtaining tissue include a shave, punch, incisional, and excisional biopsies.

Treatment

Treatment of basal cell cancers involves complete removal of the lesion, which may be accomplished by several methods, either surgical or non-surgical.

Cryotherapy is a technique that can be used when primary lesions are smaller than 2 cm. Although excellent results have been reported with this technique (>95% cure rate), there are potential side effects.

Electrodesiccation and curettage is a commonly employed treatment option for lesions that are less-well circumscribed. It may be used as a primary treatment modality with nodular subtypes of less than 2 cm and superficial variants of any size. Although cure rates in excess of 90% are reported, local recurrence is reported in 30% of lesions greater than 3 cm in diameter.

Radiotherapy may be used to treat patients with basal cell carcinoma, although overall cure rates may be low. It is generally reserved for patients who are deemed to be at high risk for surgical complications.

Topical chemotherapy (5-fluorouracil, Imiquimod) may be used to treat nodular and superficial (least aggressive variants) subtypes; it is employed more often in treatment of premalignant lesions.

Surgical excision of basal cell carcinoma results in a cure rate greater than 90%. The size, location, and histologic subtype contribute to overall prognosis.

In order to achieve histologically negative margins, guidelines exist to assist the surgeon: for tumors <1 cm a clinical margin of 4 to *5* mm, and for tumors > 1 cm a clinical margin of *5* to 10 mm is recommended. Mohs micrographic surgery is the treatment of choice for lesions in difficult areas and recurrent lesions.

Squamous cell carcinoma

SCC is the second most common form of skin cancer and usually affects the elderly. It strongly related to cumulative sun exposure, and is twice as common in men and in white-skinned individuals. SCC is also associated with chronic inflammation(chronic sinus tract, preexisting scar, osteomyelitis, burn, vaccination points) and immunosuppression, chemical carcinogens(arsenical, tar) and infection with HPV5 and HPV16.

SCCs arise from basal keratinocytes of the epidermis or its Lesions are typically on exposed areas of skin and may vary from smooth nodular to verrucous, papillomatous and ulcerating lesions. However, all variants eventually ulcerate and the ulcer have a characteristically everted edge.

Although uncommon,SCCs can metastasize to regional lymph nodes. Overall, this occurs in approximately 2% to 5% of cases. If lymph node spread has occurred, further metastatic sites include bone, brain, and lungs. Local recurrence rate is 20%.

A Marjolin ulcer is a squamous cell carcinoma that has developed in an area of chronic inflammation and scarring, which carries a risk of metastasis of nearly 50%.

Prognosis

1- depth :the deeper the lesion the worse prognosis. For SCC < 2mm , metastasis is highly unlikely, whereas if > 6mm, 15% of SCCs will have metastasized.

2- size : lesion > 2cm have a worse prognosis.

3- histological grading: The better differentiated the lesion, the less invasive a growth pattern it displays.

4- site: SCCs of the lips and ears have higher local recurrence rate than lesions elsewhere, and tumors at the extremities have worsen prognosis than those on the trunk.

5-Aetiology: SCC that arises in burn scar or chronic ulcers has a higher metastasis potential.

6- immunosuppression : SCC will invade further in those with poor immune response.

Management

1-curettage and electrodesiccation: it is indicated for < 2cm tumor with clear, well-defined border.

1- surgical excision: it is the only means of providing accurate ✓ histology. If the tumor is less than 2cm , then 4mm safe margin is considered during excision. While if it is more than 2 cm , then 1 cm clear margin is indicated.

3-radiotherapy: this will be indicated for microscopic margins after surgical excision, when more than one lymph node present , for larger lesions, and for cases when there is perineural tumor involvement.

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Lymphadenectomy

clinically palpable nodes or ✓

.if biopsy of a lymph node is positive for malignancy ✓

Follow-up •

Close surveillance and clinical follow-up is mandatory as • there is high recurrence rate within 2 years of initial ‘ treatment .

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